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Soviet Agriculture Struggles To Grow

page 7
U.S. Export Prospects

Editor:
Eric Van Chantfort

Assistant Editor:
Bill Gordon

Editorial Assistant:
Martha R. Evans

(202) 447-8302

Design and Layout:
Joan Bazemore

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PERSPECTIVES

The BIG farm income recovery predicted for 1981 has fallen victim to disappointing farm prices, rising costs, and growing prospects for large U.S. and foreign crops. USDA analysts now say net farm income may range anywhere from 1980's stunted $22 billion up to around $27 billion.

A troubled economy takes part of the blame. One symptom --weak consumer demand for red meats--has depressed both livestock and feed prices. But so many negatives here and abroad have been dominating markets that odds seem to favor some positive price developments in months ahead.

Summer may be the best quarter this year for livestock producers, especially if hog slaughter drops as expected. Prices for barrows and gilts may top $50. Choice Omaha steers could reach the low $70's before slipping in the late summer and fall. Also, prospects for big fall crops could put a lid on feed prices. Next year, that kind of help on the expense side and a probable pickup in consumer demand for meat could put profits back into the picture.

A dry U.S. summer could spark crop prices, but it wouldn't help livestock: Not only would it raise feed prices, but it could force cattle off pastures to slaughter.

Early signs point to large 1981 crops. Here are mid-June forecasts: corn, 7.7 bil. bushels, up 16%; soybeans, 2.0 bil. bushels, up 10%; cotton, 13.8 mil. bales, up 24%. But 1981 harvest forecasts are still chancy. Rains seriously delayed corn and soybean plantings in Indiana and Ohio. And even if big crops result in some price weakness, yields should recover enough to boost growers' gross returns this year and the first half of next.

The global picture? . . World grain production appears headed for a record--with U.S. crops making up more than half the increase--though weather problems have already hit China and Eastern Europe. The Soviet grain harvest is pegged at about 210 million metric tons, much better than the last two crops but well below their 1978 record.

In a step to normalize trade, the U.S. offered to sell the Soviets more grain this year--6 mil. metric tons by Sept. 30, when the current grain agreement expires. After that, if there's no new pact, they can buy as much as they want, with the U.S. watching for signs of market disruption. They've diversified their sources--signing agreements with Canada, Argentina, and India--but they're still expected to buy from us. The key questions: When? and how much?

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The USSR's new 5-year plan sets more modest food production goals and offers incentives to private farm plots, but Soviet agriculture still faces a long, uphill struggle to solve internal problems and feed a growing population.

U.S. Export Sales: Ringing Up Another Record by *Eric Van Chantfort* 7

U.S. agriculture will ring up record export earnings this year despite a sluggish world economy, high interest rates, and 1980's drought-reduced harvest. Nevertheless, there's some stiff competition ahead.

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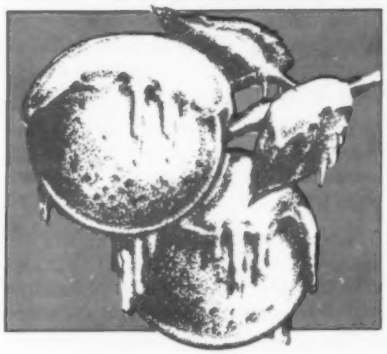
When a freeze like the one early this year hits Florida citrus groves, growers and processors know where to look for fast, accurate information about possible crop damage.



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New FCIC Insurance Covers More Crops 16

Producers are looking over the options offered by the new FCIC crop insurance program and the tradeoffs between premium costs and benefits if natural disaster strikes.

Soviet Agriculture Struggles To Grow

Ten times in the last 50 years the Soviet Union unveiled ambitious 5-year economic plans often including major agricultural programs, and each time aggregate farm output fell short of target.

Late last year, the Soviets announced their eleventh such plan for 1981-85. While the goals are a bit more modest than in previous plans, USDA economists contend they still will be difficult to meet.

"I don't see much chance for achievement of goals in Soviet agricultural production for the next several years," says USDA economist Yuri Markish.

The new Soviet plan also recognizes the importance of privately-owned plots and tries to better integrate their production with the traditional state and collective farms.

"These plots are the best source of high-quality food products in the Soviet Union," Markish says.

In 1979, private plots made up only 1.4 percent of all Soviet farmland but produced 30 percent of the country's meat and milk, 36 percent of its eggs, 54 percent of its fruit and berries, and 60 percent of its potatoes, Markish says. In addition, 20 percent of all Soviet livestock are on private plots.

The new Soviet plan will attempt to boost production even further on these plots through larger monetary incentives to growers.

The overall Soviet capital investment for agriculture is projected at about $56 billion at the official Soviet exchange rates. This represents an increase of less than 1 percent over 1980's total. Just how much of this may trickle down to private plot holders in the form of machinery suitable for small areas, for example, is hard to say.

Under the 1981 Soviet agricultural production plan, the total value of farm output is forecast to reach $203 billion, slightly below last year's goal but 12 percent more than 1980's actual value.

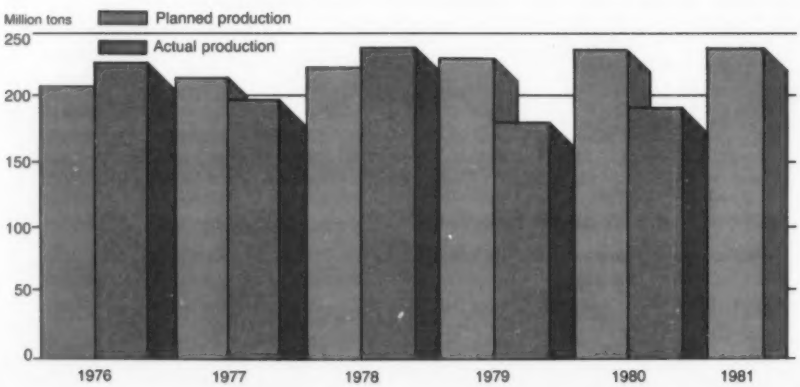
Grain Output

Grain production is targeted at 236 million tons in 1981, up only 1 million tons from 1980's goal but a 47-million ton increase over last year's actual production.

However, Markish contends this objective will be difficult to meet considering that the area planted to grain is to remain at about the same level of nearly 316 million acres as in the last 5-year plan.

"In order to achieve this goal, grain yields would have to repeat the 1978 record 31.8 bushels per acre, and last year they totaled only 25.7 bushels per acre," says Markish.

USSR Grain Production Hasn't Matched Goals



The 1981 aim for meat production stands at 16 million tons, only 2 percent above the previous plan but nearly 6 percent above last year's production. Along with grain, meat production goals are probably the most optimistic.

Tight feed supplies severely hampered Soviet meat production in 1980. This year, Markish is skeptical of the Soviet's ability to attain this goal. The Soviets have emphasized obtaining additional meat production from private plots, but another year of tight feed supplies will likely hinder output.

"Even if the plan were met, the 16-million-ton total would not do much to improve per capita meat supplies, since the Soviet population is growing by about 2.2 million each year," says Markish.

Feed Availabilities

Decreased forage production during 1979 was one of the reasons for reduced meat production in the USSR during 1980. In addition, the mediocre 1980 grain production and the U.S. sales suspension also reduced feed availabilities. Although forage production improved last year, the quality was poor and is not expected to help Soviet meat production in 1981.

Improving both the quality and quantity of forage production is viewed by the Soviets as one of the major tasks facing them for agricultural development.

They are also interested in becoming more efficient livestock feeders and in reducing their requirement for imported grain.

Other production targets unveiled in the 1981 plan that Markish maintains will be hard to meet are:

- Milk production. Despite declines in milk yields in each of the last 4 years, the 1981 plan calls for a 95 million ton output, the same as last year.
- Sunflower seed production which is planned at 6.4 million tons, almost 17 percent below the 1980 plan and 38 percent above actual 1980 production.
- Vegetable production. Planned for 1981, 28 million tons, down around 1 percent from 1980's goal. Actual vegetable output last year came up 10 percent short of the target.

What's responsible for the Soviet's poor showing in agricultural production?

Anton Malish, chief of the USDA's Economics and Statistics Service Eastern Europe/USSR Branch, says the major problem is that Soviet agricultural land is much less favorably located than that of the U.S. "Only one-third of Soviet farmland lies as far south as the U.S.-Canadian border," he says.

Changing Weather Patterns

Also, the growing season is short compared to most U.S. farm regions, with late frosts and early snows. Soviet weather ranges from intense cold to desiccating winds which can destroy crops in a matter of hours.

"This variability makes it hard to achieve a steady growth in farm production," adds Malish.

Diets Reflect Differences in U.S.-Soviet Farm Output

Wide differences in farm output between the USSR and the U.S. are reflected in the diets of each country's citizens.

In 1979, Americans consumed over twice as much meat per capita as the Soviets due to low meat production in the Soviet Union. The average U.S. citizen ate 269 pounds of meat that year compared with only 128 pounds in the USSR.

Fruit consumption in the Soviet Union is also far behind that of the U.S. Americans consumed almost three times as much fruit as their Soviet counterparts, 227 pounds to 84 pounds.

American vegetable consumption in 1979 topped Soviet consumption—234 pounds per capita to 205 pounds in the USSR. In addition, Soviet per capita vegetable consumption figures do not reflect the loss of nearly half of production due to inadequate storage and transportation facilities and the overall poor quality of the crop, says USDA economist Yuri Markish. The Soviets eat mostly cabbage, beets, and carrots, while Americans consume a far wider variety of vegetables.

Per capita egg consumption was also higher in the U.S. The average American consumed 283 eggs in 1979 compared with 233 eggs per capita in the USSR.

To offset nutrient losses from their low consumption of meats, the Soviets eat almost twice as much grain as Americans. Per capita grain consumption figures show 306 pounds in the USSR compared with 157 pounds in the U.S.

Potato consumption in the Soviet Union is more than twice the U.S. average—262 pounds to 119 pounds.

Per capita sugar consumption is slightly higher in the USSR than in the U.S.—94 pounds per person to 91 pounds in the U.S.—but certain factors should be taken into account.

Many Americans deliberately reduce sugar intake for health or dietary reasons. Americans also substitute corn syrup and other sweeteners for sugar in many products.

Other problems can be traced to the days of Stalin when government emphasis focused on the industrial and military sectors.

Since then, agriculture has received a higher priority, but agriculture in the USSR currently accounts for 27 percent of total capital investments, despite its large needs.

Malish points out that problems that might be solved with major investment outlays include: poor quality and lack of modernization standards for farm machinery; the low level of agri-industrial infrastructure; and low labor productivity.

Farm labor is also a serious concern. The total agricultural labor force declined by over 10 percent between 1960 and 1978. Farm labor shortages are prevalent throughout much of the USSR.

In the Soviet Union, young people are leaving rural areas for several reasons: 1) many enlist in the military; 2) others take advantage of widespread employment opportunities in military plants, allowing them to settle in towns; 3) more young people are attending college; 4) many employment opportunities are in big city construction projects.

Another obstacle facing Soviet agriculture is the poor quality of soil in many growing areas and an inability to produce sufficient amounts of high-quality fertilizers tied to a lack of phosphates. This inadequate supply of fertilizer has left most Soviet farmland deficient of nutrients and has resulted in widely fluctuating yields.

In recent years, the Soviets moved to correct this phosphate fertilizer deficiency by importing large amounts of U.S. superphosphoric acid. This action was interrupted by the U.S. sales suspension.

Crop Disease

Due to a lack of effective herbicides and pesticides, crop disease is a big problem with Soviet farm production. "The 1980 Soviet grain harvest was reportedly heavily plagued by weeds and pests," says Markish.

He adds that Soviet scientists have apparently decided that combating crop pests and diseases with high technology pesticides and herbicides is either too costly—since most are imported—or beyond their own production capacities.

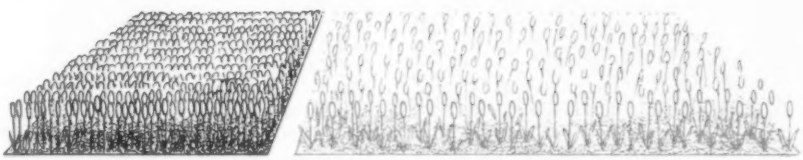
The Soviet press is frequently critical of the low technical standards and poor reliability of agricultural machinery. "Just when machinery should have been used to full capacity during the 1980 harvest, a Soviet rural interest newspaper reported large numbers of vehicles disabled for want of key spare parts," notes Malish.

"A new department has recently been established in the Communist Party specifically to correct such problems."

Finally, the poor Soviet rural road network, shortages of elevators and warehouses, and poor downstream facilities such as refrigeration and packing plants mean that a large portion of what is produced never reaches the dinner table.

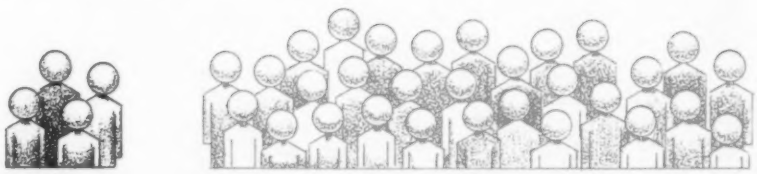
These problems paint an uncertain picture for future Soviet agricultural production. Whatever policies the Soviets implement, they will still rely on the international market to help solve some of their food problems.

The U.S. Produced More Grain on Less Land in 1980



	U.S.	USSR
Area Million acres	177	315
Production Million metric tons	270	189

With a Much Smaller Farm Labor Force.



	U.S.	USSR
Number In millions	3.7	27
Percent of total labor force	3.5	21

U.S. Export Sales: Ringing Up Another Record

Farmers will ring up record export earnings this year despite a sluggish world economy, high interest rates, and 1980's drought-reduced U.S. harvest.

Sales are likely to reach about $46 billion in the 1981 trade year ending this September 30, says USDA analyst Steve Milmoe. That doesn't match some of the earlier forecasts, but it's an impressive $5.5 billion increase from 1980.

Higher prices for farm commodities will be mainly responsible for the rise in earnings, although export volume is also expected to set a record. Shipments of all products should total about 167 million metric tons, up 3 million tons from last year.

According to Milmoe, this increase in volume was already achieved in the first 6 months of the trade year.

In the months ahead, U.S. grain exports will face stiff competition from the recent harvests in Argentina and Brazil. The two countries produced about 14 million more tons of feed grains than last year, meaning a sharp increase in exports. Also, Argentine wheat may replace some potential U.S. sales to Peru, Chile, and Brazil.

As a result, U.S. grain sales will probably slow down close to last year's pace. But with the gains already made in the first half of the trade year, combined feed grain and wheat export volume may top 114 million tons for the entire year, up from 108 million last year.

The anticipated increase in grain sales is important because U.S. exports of soybean products are taking a beating, Milmoe says.

European buying picked up recently, but total U.S. soybean exports will probably end the year about 3 million tons below 1980's volume of nearly 24 million metric tons. Dollar earnings are another story. Export prices remain higher than last year despite the bearish effects of Brazil's large harvest, so U.S. sales of soybeans and products may equal last year's receipts.

Growing Markets

It's no surprise that Japan will remain our top customer, spending an estimated $6.9 billion on U.S. farm products, up from $5.8 billion last year. Japanese purchases of red meats, poultry, wheat, corn, and soybeans have been unusually strong so far this year.

Mexico will be the number two buyer, with estimated purchases of $2.9 billion, up almost $1 billion. Principal items include corn, dried beans, sorghum, soybeans, and wheat.

U.S. sales to Western Europe are expected to decline slightly to about $12.1 billion this year, while sales to Asia ($17.3 billion), Latin America ($7.3 billion), and Africa ($2.8 billion) will be much higher than in 1980.

Many Products Contribute to Higher 1981 U.S. Export Earnings

	Fiscal years	
	1980	1981 [1]
	billion dollars	
Grains and feed	18.7	22.8
Feed grains	9.1	11.4
Wheat	6.3	7.7
Wheat flour	0.2	0.2
Rice	1.2	1.5
Oilseeds and products	10.0	10.1
Soybeans	6.2	6.4
Soy cake and meal	1.6	1.7
Soybean oil	0.8	0.5
Livestock products	3.1	3.6
Dairy products	0.2	0.2
Poultry products	0.5	0.7
Cotton, incl. linters	3.0	2.4
Tobacco	1.3	1.4
Fruits, nuts, and vegetables	2.7	3.4
Sugar and tropical products	0.9	1.4
Total	40.5	46.0

Totals may not add due to rounding.
[1] Forecast for Oct. 1, 1980, to Sept. 30, 1981.

Many Uncertainties Remain

None of the export forecasts for this year are set in cement, Milmoe says. Some of the factors which may affect U.S. sales for the remainder of the year include changes in economic activity here and abroad, prospects for the fall harvest, Soviet purchase intentions, and currency exchange rates.

Jittery financial markets are playing a bigger role in export prospects than in the past. The recent strengthening of the U.S. dollar means foreign products become cheaper for U.S. consumers and American products become more expensive abroad. This can be an important factor in farm exports, especially when the U.S. isn't the only country holding exportable food supplies.

Another major uncertainty is the USSR. The U.S. expects some additional grain sales before September 30—the expiration date of the current grain agreement—but there's little basis for speculating on how much the Soviets will buy—if any.

After September 30, the requirements for consultations on sales and for a minimum level of Russian wheat and corn purchases will end unless a new grain agreement is negotiated. Although Soviet enthusiasm for another agreement cooled noticeably after the partial embargo was lifted, analysts suggest that the new attitude may be just a pre-negotiation tactic.

But if the Soviets see a good crop in prospect, the pressure to conclude a new agreement won't be nearly as great as it was in 1975 when the original agreement was signed. At that time, they were bringing in a 140-million-ton grain crop, their smallest harvest since 1965.

Also, the Soviets may feel less of a sense of urgency because of the recently signed agreement with Canada. Canada will supply the USSR with at least 25 million metric tons of wheat and feed grains over the next 5 years.

U.S. Farm Productivity Rises from Era to Era

The American farmer's knack of squeezing the most out of agricultural resources has quadrupled the annual rate of productivity growth in the two centuries since the United States became a nation.

The annual productivity growth rate—a measure of the rate of change in the farm sector's total output relative to its level of production inputs—rose from 0.4 percent a year after the American Revolution to about 1.6 percent a year in the 1970's.

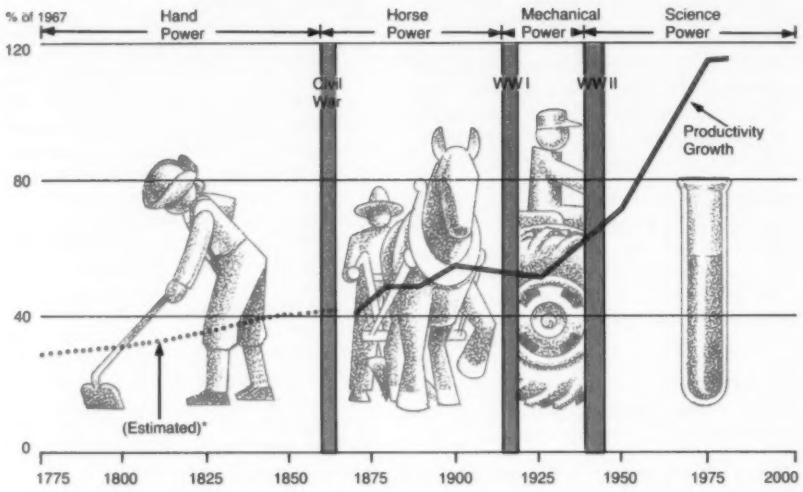
While the prodigious output of American agriculture is hardly a secret, Kenneth R. Farrell, administrator of USDA's Economics and Statistics Service, reports that productivity growth has accelerated throughout the four major epochs of U.S. agricultural technology:

- In the "hand power" period of 1775-1870, productivity grew at an average annual rate of 0.4 percent.
- It grew 0.5 percent per year in the 1870-1920 "horsepower" epoch.
- During the 1925-1945 "mechanical power" era, it gained 1.2 percent per year.
- The "science power" era of 1945-1980 saw gains of 1.6 percent per year.

"Today, the growth of agricultural productivity is governed by the sciences—genetics, chemistry, biology—and by management," Farrell says.

In a world that is growing more dependent on U.S. farmers for food, American farm productivity improvement is vital. Since most inputs—land, labor, capital, and management—are limited, farmers must wring increasingly more production from them to meet international demand.

Agricultural Productivity Grows Throughout U.S. History



*Precise data are not available.

Productivity Trends

The rate of productivity increase is one indicator of just how successful farmers are in getting the most out of inputs. Farrell finds that, despite some problems, the historic upward trend in productivity continued through the 1970's.

"There has been a slight slowdown of productivity growth over the last three decades," he says, "but this has been rather strongly influenced by such factors as the 1970 corn blight and the 1980 drought."

One way of gauging farm productivity, Farrell notes, is by using an index which compares the ratio of the index of total farm output with the index of total farm inputs used.

The total productivity index has gained steadily since 1950—though the rate of increase has slowed at times—except for lapses in 1975 (high input costs) and 1980 (drought).

However, despite solid overall growth, productivity gains vary from commodity to commodity and region to region. And this is a major drawback to using the overall productivity growth rate as the only indicator: It measures only broad aggregates, missing significant variations among individual commodities and states.

Beef productivity, for example, fared poorly during the 1970's as feed prices sharply increased and the calving rate fell below 90 percent each year from 1975 to 1979.

But overall livestock and poultry productivity climbed 1.1 percent a year, due to strong gains in poultry and dairy.

These gains reflected improved feeding efficiency, larger pig litters, more efficient labor use, selective breeding, hog and poultry confinement operations, and other improvements. However, the impressive gains for the livestock sector as a whole offer little benefit to consumers who prefer beef to pork and poultry.

Similarly, national productivity data do not separate out trends on state and local levels, so individual farmers may fare far better or worse.

For example, national corn yields are now 2½ times higher than in the early

While no one can predict with certainty what technological marvels lie ahead, many promising paths of research are being explored.

1950's—thanks mainly to adoption of hybrids—with Illinois yields still climbing rather steadily. But, since 1965, gains in North Carolina have leveled off, partly because more marginal land there has been cropped.

Within Our Grasp

Although some factors beyond farmers' control—such as weather—affect productivity, Farrell says that many major factors are within mankind's grasp:

• Improvements in input quality and quantity—such as more and better fertilizers and other agricultural chemicals—have resulted in increases in crop yields in recent years.

Irrigation development, Farrell notes, "has improved the quality of the land input and the quantity of water input into western agriculture and narrowed the gap between Illinois and Nebraska corn yields from more than 20 bushels per acre in the early 1950's to near equality in the 1970's."

• Economic factors influence the choice of the commodity produced and the application of inputs. For instance, a farmer decides whether to plant corn or soybeans according to the relative market values. And the yield of the selected crop may be affected by the cost of inputs.

• Government regulations and policies have an effect. Land diversion programs through the early 1970's actually raised productivity by removing marginal land from production. Total production is, of course, reduced by such measures.

Other regulations such as minimum wage and environmental protection requirements cut into productivity by increasing operating costs without yielding more products.

• Technology is the final major factor. In the past, technological breakthroughs such as hybrid corn and sorghum, mechanical harvesting systems, veterinary medicine advances, and other such improvements have triggered great leaps in farm productivity.

While no one can predict with certainty what technological marvels lie ahead, Farrell says many promising paths of research are being explored, such as increased photosynthetic efficiency, biological fixation of nitrogen, and twinning in beef cattle.

"Research and new technology will not, however, guarantee increasing productivity in the future," he cautions. "The economic incentives must exist, and the necessary information to evaluate and adopt the new technology must be available."

Defining the Terms

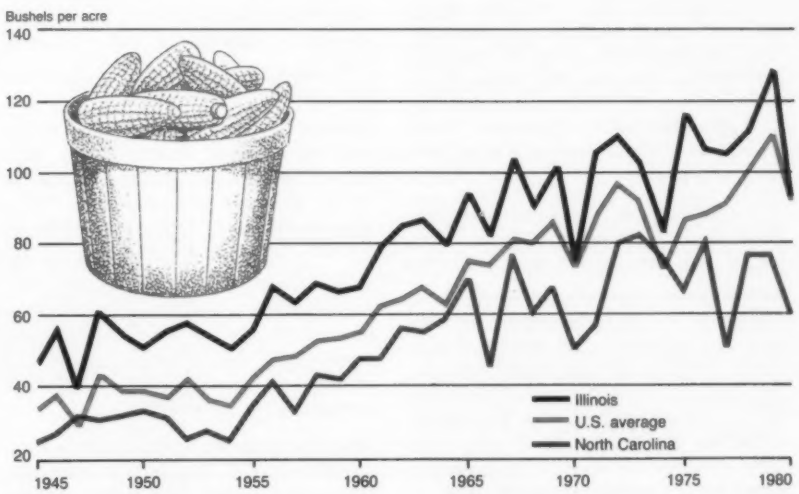
In measuring agricultural output trends, it's helpful to be aware of subtle but important differences between the terms productivity, production, and productive capacity.

Productivity, the output per unit of input, is affected by technology and the mix of resources. Yield per acre or pigs per litter are measures of productivity.

Production is the total output produced, and it's determined by total resources used, and their productivity. The total number of bushels harvested measures production.

Productive capacity is the amount of production forthcoming if all available resources were fully employed incorporating the best technology.

Productivity Varies Among States' Corn Yields



Nothing Goes To Waste in Animal Processing

There's more to a steer than steak. Actually, an average 1,000-pound market steer yields only about 440 pounds of beef. Most of what's left—around 40 percent of the animal's live weight—becomes byproducts.

Although beef makes up about 5 percent of the total U.S. diet, Americans really eat even more—disguised in chewing gum, marshmallows, some margarines, and gelatin capsules. And many more items are manufactured from cattle by-products—sporting equipment, bone china, cosmetics, and photographic film are just a few.

All these "dividend" products come from parts of the slaughtered animal called the "fifth quarter" in the cattle industry.

In reality, of course, the carcass of a 1,000-pound market steer is divided into only four quarters—two front and two hind—which weigh about 600 pounds and include the fat and bone that will be trimmed at the retail counter. But almost all of the remaining 400 pounds—the "fifth quarter"—become byproducts which have a potential market value.

According to USDA economist Larry Duewer, byproducts make a significant contribution—just over 10 percent—to the packer's profit margin. Byproducts benefit both cattlemen and consumers by helping increase the value of fed cattle without further increasing retail beef prices.

Hides Hold Top Value

In dollar value, hides account for about half of all byproduct sales. Last year's average of $44.50 per 100 pounds of hide was about $27 per animal (a normal hide weighs around 60 pounds).

However, in recent years, hide prices have been erratic. During spring 1979, native heavy steer hides reached a record $90 per cwt., although 1979's average was only $73—still a hefty 64 percent above the 1980 price.

And volatile prices may reflect the primary hide market—export. Between 60 and 70 percent of U.S. hides from commercial slaughter are bound for world trade, and almost all of those (90 percent) go to Japan.

Of course, any change in Japanese demand or in U.S. supply can drastically affect hide prices. And some analysts suggest that dramatic price swings—as in 1979/80—could be a future trend unless the industry replaces hide exports with leather exports.

Some leather industry officials believe that leather—simply hides that have been tanned—would have a wider market appeal and offer greater price stability for wholesalers.

Over the past few years, leather exports have been reaching new records. In 1980, the industry had export sales of $310 million.

But only better grade hides are made into leather—latigo, suede, or tooling. Those of lower quality can be used in the manufacture of felt and certain textiles, as binders for plaster and asphalt, or for the base of some ointments and building-insulation materials.

Leather manufacturers usually buy hides complete with hair and trim them before making a finished product. This leaves another byproduct—animal hair—one of the more difficult items to move.

At one time, upholstery stuffed with animal hair was popular, but synthetics have practically wiped out this market. However, one long-time use of animal hair is the manufacture of artist's paint brushes. This market is limited, though, because only the fine hair from the animal's ear can be used.

Hair does contain a lot of protein, and researchers have developed it as a feed additive for livestock—a less expensive alternative to meat and grain as a protein source.

Tallow Sales Slide

Tallows and greases are probably second to hides in terms of cash value for byproducts. And the slaughter process provides a lot—an average 60 pounds per animal—of both the edible and inedible varieties.

In 1975/76 alone, 2,580 metric tons were produced. This is much more than domestic use (about 1,500 metric tons during that same period) because demand for these items has really been slipping over the last two decades.

As far as eating tallow outright, the average American consumer is no longer interested. Lard, a pork by-product, had been widely used in cooking before the sixties, but margarine and shortening have essentially replaced lard in the kitchen.

Today, edible tallow's major domestic use is as an additive in livestock and pet foods, again because it is a cheaper source of protein than meat itself. And it sells. The pet food industry is huge, with domestic sales reaching over $2 billion in 1980.

Some inedible tallow is still used industrially, mostly for lubricants, although its bigger market—soap—has virtually dried up with the introduction of synthetics. From 1947 to 1964, tallow-based soap production declined some 2 billion pounds.

But concern over environmental pollution, particularly from detergents, has rekindled interest in natural-based soaps. And scientists working with USDA's Science and Education Administration have been successful in creating (but not yet marketing) completely biodegradable soaps that are at least 60 percent tallow. Unlike the old tallow-based soaps, these new varieties lather in cool or lukewarm water.

Besides Beef

On the list of cash values for byproducts, variety meats—sold directly from slaughterhouse to supermarket—come in third. The most popular, liver, generally nets the biggest return in the marketplace. But the list of variety meats is long—hearts, stomachs, tripe, spleens, livers, kidneys, brains, tongues, and sweetbreads are a few.

These foods are very high in nutritional content but have traditionally had a low appeal for many American consumers. However, higher red meat prices and acceptable—even gourmet—recipes have prompted some consumers to reconsider variety meat delicacies.

Perhaps variety meats are unfamiliar to most American dinner tables, but salads and desserts made from gelatin—another beef byproduct—are just about a national institution. Gelatin is a derivative of cattle collagen. Known as cartilage in humans, collagen is a protein that connects the tissue and bone.

Besides salads and desserts, gelatins are used in making chewing gum, marshmallows, and dissolvable medicine capsules. Some inedible products are manufactured from gelatin as well—photographic film, printer rollers, window shades, sheet rock, matches, wallpaper, sandpaper, and glues and adhesives.

Medical Fringe Benefits

A relatively new and sophisticated byproduct market is the manufacture of pharmaceuticals. But because the total weight of the glands bound for this market is less than a pound per animal and processing them is so expensive, these byproducts don't bring in a huge amount of money to the packer.

Currently, about 140 medications are derived from cattle glands. One of the most important and best known pharmaceuticals is insulin, a drug used to treat diabetes. There are 5 million diabetics in the U.S. alone, and at least one-fourth of them require insulin daily to regulate their blood sugar levels.

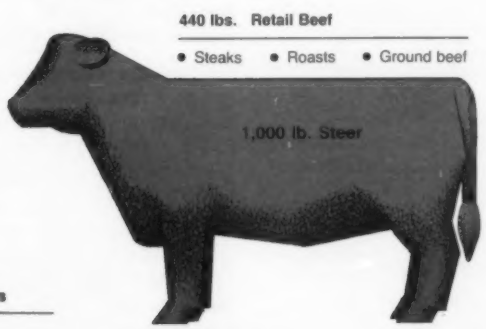
In humans and in cattle, the pancreas gland naturally manufactures insulin, but it takes the glands from 1,500 slaughtered animals to produce only 1 ounce of insulin refined for human use.

Another drug, clinically called corticotropin and more commonly known as ACTH, is available synthetically, but generally manufacturers derive ACTH from the pituitary gland of livestock. Used primarily in treating human adrenal gland problems, ACTH is a very valuable pharmaceutical but not so easily obtainable.

The pituitary gland of an average steer is tiny, weighing less than a tenth of a pound, and 10,000 glands are required to refine just one pound of ACTH for human use.

In 1976, the wholesale price for a single cattle pituitary gland was only 11 cents. But researchers are quick to point out that some important byproduct benefits simply cannot be measured in dollars.

Cattle Products: More Than Meat



Variety Meats

- Liver
- Brains
- Tongue
- Ox joints
- Kidneys
- Tripe
- Sweetbreads

Edible By-Products

- Oleo stock
- Oleo oil
- Gelatin
- Marshmallows
- Canned meat
- Candies
- Natural sausage casings

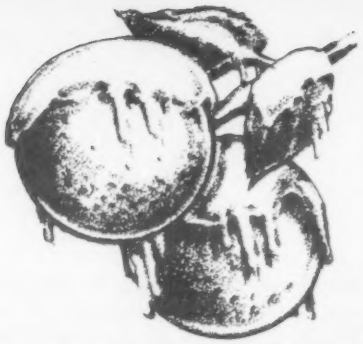
Pharmaceuticals

- Rennet
- Epinephrine
- Thrombin
- Insulin
- Heparin
- TSH
- ACTH
- Cholesterol
- Estrogen
- Thyroid extract

Inedible By-Products

- Leather
- Sports equipment
- Surgical sutures
- Soap
- Cosmetics
- Buttons
- China
- Photographic film
- Sandpaper
- Violin strings
- "Camel hair" brushes
- Explosives

Surveying Damage in the Citrus Groves



When a freeze hits the Florida citrus belt, growers and processors need fast, accurate information about possible crop damage. That's why the Florida Crop and Livestock Reporting Service performs special freeze damage surveys.

The results of the surveys, which are issued as freeze damage reports, help predict crop loss and are combined with other information to update the citrus production forecasts.

"The damage reports describe the amount of icing in the fruit," says Richard Small, statistician in charge of USDA's Florida office. "This helps the industry decide whether to impose temporary embargoes on fresh fruit shipments. Also, the reports help reduce wild rumors and misinformation."

So, when it looks as though the temperature will drop below 28°F for 4 hours or more, the Florida field staff prepares to survey ice content in fruit. The Orlando-based, 12-member staff takes fruit cuttings from sample groves in major parts of the citrus belt.

The sub-freezing temperatures form ice in the citrus fruit, which causes the cells—teardrop-shaped sacks—to expand and burst. Once they burst, the juice evaporates, and less is available for processing into frozen concentrated orange juice (FCOJ).

Sampling at Sunrise

Fruit ices up during the night and early morning of a freeze, but thaws after sunrise. Therefore, surveyors start sampling at dawn. By 9 a.m., rising temperatures melt the ice in the fruit and would distort survey results.

The survey must properly reflect the situation of all fruit—not just the most or least damaged. So, the staff samples randomly selected groves, taking fruit from preselected trees in each grove. "The selection of groves and fruit is totally unbiased," Small says.

Surveyors make four cuts into each fruit. The first cut removes the "cap," the rind that stretches from below the stem to just above the fruit flesh. All other cuts are lined up with this.

The second cut is made ¼ inch from the first; the third is made another ¼ inch down. The last cut is through the center. The field staff looks for ice in the last three cuts and assesses ice at the center as either "minor" or "major." Each fruit is classified according to the deepest cut showing ice.

Two Weeks Later

Two weeks after the initial freeze damage investigation, the staff goes back to the groves to determine the extent of damage in ice-cracked cells.

"Some fruit shows borderline damage, so observations are somewhat subjective, especially when dehydration first becomes noticeable," Small says.

Once again, each fruit is classified according to the deepest cut showing damage. For center damage, a watery or glazed core with a small amount of cell breakdown is considered minor, while a mushy core lacking section divisions constitutes major damage.

Surveyors also record the severity of leaf damage. Wood damage can't be determined until the trees begin spring growth.

If the freeze is before the end of January, surveys cover early and mid-season oranges such as Temples, late oranges such as Valencias, and white and pink grapefruit. A later freeze affects only late oranges because the others have either been harvested or are mature enough to be quickly picked for juice processing.

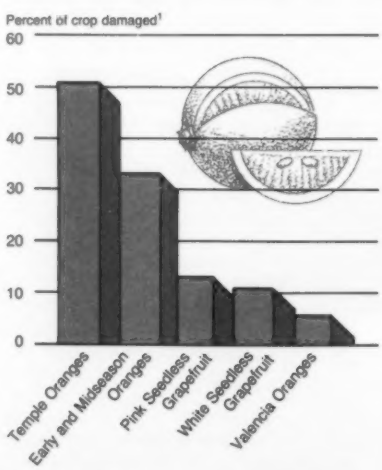
Because dehydration after a severe freeze continues until harvest, damage surveys are made every 2 weeks until about April 1. Five surveys were taken for the 1981 freeze, but the last four only included Valencias and other late oranges. That's because early varieties were quickly harvested.

The final report, published April 9, indicated that 46 percent of the sample fruit showed dehydration at the center, compared with 44 percent during the last big freeze in 1977. The survey also confirmed that the damage was most severe in the upper interior and west Florida, but light in the Indian River area.

For the frozen concentrated orange juice industry, this indicates that the yield from all oranges dropped from last year's 1.33 gallons a box to 1.19 this year. The yield for late oranges will likely be 1.15 gallons.

The Florida Crop and Livestock Reporting Service is a cooperative office of USDA's Economics and Statistics Service, the Florida Department of Agriculture and Consumer Services, and the University of Florida's Agricultural Experiment Stations.

Temple Oranges Hit Hardest by Freeze



[1]Percent of crop showing center icing, Jan. 27- 29.

AGRICULTURAL ROUNDUP

New Hybrids for Citrus Growers

Freezing weather hit the Florida citrus crop hard four times in the last two decades. Last January's freeze and a similarly severe one in 1977 each slashed 15 percent, or 30 million boxes, off the orange crop.

But there is hope that future crops may survive in better shape. At USDA's Horticultural Research Laboratory farm in Leesburg, Florida, hybrid citrus trees emerged from this year's freeze undamaged, while neighboring red grapefruit and Page orange trees—currently one of the most cold-resistant commercial varieties—lost all leaves and suffered wood damage.

"The hybrids are extremely cold hardy, and all of them survived the freeze," says Roger Young, laboratory director. "But we still don't know how the fruit will stand the cold, because it was harvested before the freeze."

To get these sturdy hybrids, USDA geneticists Herbert Barrett and Don Hutchison crossed sweet and sour varieties of oranges with *Eremocitrus glauca,* the Australian "desert lime." A relative of the citrus family, it's a cold-hardy, drought-resistant tree that lives in areas with 10 inches or less of rainfall a year.

Geneticists cross-pollinated the species and used the resulting seeds to grow the laboratory's trees.

The hybrid fruit—about the size of a lime—is too small for market, and the quality is not up to juice-processing standards. "Although these are not going to be a big salvation to the industry, they will provide the breeding stock for the next generation," Young says. Researchers hope to gain commercially acceptable fruit from the next generation, which should fruit in 5 to 7 years.

As well as being better adapted to cold and dry conditions, the hybrids produce fruit that matures in a shorter time. "The net result is that you broaden the amount of time industry can harvest fruit," Young says. The fruit can be harvested in Florida during midsummer, usually a time when no fruit is ready for picking.

Also the cross-breeding of citrus and *Eremocitrus glauca* will widen the genetic base, making the trees more disease-resistant.

Farmers Rely Less on Pesticides

U.S. farmers' use of insecticides and herbicides in the coming decades is expected to grow at a slower rate than in the 1960's and 70's. Through 1990, farm pesticide use should increase less than 1 percent annually, compared with 4 percent a year from 1966 to 1976.

The trend to Integrated Pest Management (IPM) is a major reason, according to USDA economist Ted Eichers. In IPM, current technology and management practices can reduce crop losses from pests without relying as heavily on chemicals.

Eichers lists other reasons for a slower increase in the use of pesticides: for example, more complex chemicals applied at lower rates and machines that can apply them more efficiently.

While growth in the amount of pesticides used is slowing, costs are going the other way. Still, pesticide costs in the 1970's rose at less than half the rate of other farm inputs. Rising chemical and energy prices, however, are likely to pull them even in the 1980's.

The fastest growth in pesticide use will come overseas, especially in developing nations. Improved technology and rising food requirements in those countries should lead to rapid increases in pesticide application rates.

According to an industry study, world pesticide expenditures should increase by 14 percent from 1980 to 1984—a 3.5-percent annual increase.

The same study reports that herbicides should show the fastest growth rate in the U.S.—more than four times that for insecticides—though still far slower than in 1966-76.

Much of the projected growth in herbicides is due to the increasing use of reduced-tillage and no-till practices by farmers trying to save on machinery and work time and energy costs. These farmers will have to apply additional herbicides before planting to kill existing vegetation, besides that normally applied in the preplant and early growth stages.

Insect and disease populations may also increase because of the reduced cultivation, requiring more pesticides, but this won't offset the trend to slower annual increases in use.

Some researchers even predict a reversal of usage rates for insecticides in the coming decades—something that has already happened with cotton, a crop for which IPM works particularly well.

Other improved management practices should also help to hold down pesticide use. Crop rotation was a primary method of insect control before the development of effective pesticides. Many farmers have been returning to this practice, particularly in the leading corn-growing areas where soybeans have become a major crop.

Alternating corn with a legume crop such as soybeans reduces the chances that rootworms will build up large populations or become resistant to a chemical after repeated use.

Chemicals Win, But Scarecrow Lore Lives On

From their earliest efforts to protect their crops from birds, American farmers have relied on the scarecrow.

Indians were using scarecrows to guard their cornfields when Columbus landed in the New World. Colonists learned from the Indians to drop five kernels into each hill of corn: "one for the woodchuck, one for the crow, one for the cutworm, and two to grow."

Crows and other birds can inflict serious damage. According to Arthur C. Reimherr, Product Manager of the Stanford Seed Company, in a field of corn planted in 30-inch rows, a crow pulling only one seed or seedling every 17½ feet at planting time can trim the harvest by 10 bushels of shelled corn an acre.

The ragged sentinel posted by early planters succeeded in limiting this kind of crop loss.

A tale is told of the farmer who made a scarecrow so fearsome that crows not only left his crops alone but brought back corn they had stolen years before.

Scarecrows have mostly disappeared from American fields, replaced by methiocarb and other remedies, but, as USDA Historian Wayne Rasmussen says, "They made a contribution, both to folklore and to saving our crops."

Crops treated with methiocarb are bitter tasting to birds. And the chemical's effect—illness—quickly teaches these trespassers not to come back for a second taste.

Crop and Livestock News on Call

Depending on how fast you want USDA's latest crop and livestock data and just how much detail you need, the Crop Reporting Board has a service to match.

The Board's published reports are available free from the national office in Washington, D.C. These usually reach subscribers' mailboxes in a week to 10 days after the estimates are made. See the June *FARMLINE*, pages 10-11, for a schedule of the reports and the address where they can be ordered.

The Board's 44 field offices release similar reports, which provide state-by-state information and other local material.

The Farmers'—900—Newsline, a telephone service, offers a recorded, 60-second news summary 1 hour after the official estimates are announced at 3 p.m. Washington time. The Newsline can be reached at 900-976-0404. Your cost is 50 cents per call. More details on the Newsline and a schedule of coming features appear elsewhere on this page.

For those who want the estimates, a narrative summary, and the detailed data tables in a hurry, there's also the computerized public release system. It's operated by the Crop Reporting Board through a time-sharing computer contract with Martin Marietta Data Systems (MMDS).

Farmers and other data users with access to computer terminals and an account with MMDS may read out the latest crop, livestock, and other estimates about 15 minutes after their issuance by the Board. The system also carries world and domestic economic analysis and projections issued by USDA's World Food and Agricultural Outlook and Situation Board.

USDA's Extension service is one of the biggest users of the computerized release system. The information is processed by local extension specialists to aid local producers with their production and marketing decisions. Many commercial firms, news services, and information organizations use the latest data to help them inform farmers, ranchers, and businesses serving producers about conditions all across agriculture.

For more information on what the computerized system offers and the fees charged, contact:

Bob Dworkowski, Martin Marietta Data Systems, 6301 Ivy Lane, Suite 300, Greenbelt, MD. 20770, phone (301) 345-0100 **or** *Jerry Clampet, Crop Reporting Board, USDA, Washington, D.C. 20250, phone (202) 447-7017.*

Information by Phone

The Farmers'—900—Newsline can keep you on top of the latest agricultural estimates and analysis from USDA's Crop Reporting Board and World Food Board.

A 60-second news summary is available 24 hours a day, 7 days a week, for 50 cents per call charged to your telephone bill by the Bell system. There is no regular long-distance fee for these calls.

News items and special features are updated each weekday at 4 p.m. Washington, D.C. time.

Call the Farmers'—900—Newsline for the latest crop, livestock, export, and economic news from USDA: 900-976-0404. In some areas, you may have to dial "1" first.

Here's a schedule of coming Newsline items:

July

10,11,12	U.S. Crop Prospects
13	World Crop Prospects
14	Crops and Weather
15	Farm News Special
16	Soybean Situation
17,18,19	Milk Production
20	Cattle on Feed
21	Cattle on Feed Analysis
22	Wheat Situation
23	Red Meat Production
24,25,26	Farm News Special
27	Cattle Inventory
28	Cattle Inventory Analysis
29	Crops and Weather
30	Vegetable Situation
31	Farmers' Prices

August

1,2	Farmers' Prices
3	Feed Grain Update
4	Crops and Weather
5	Agriculture Outlook
6	Farm News Special
7,8,9	Retail Food Prices
10	Farm Trade Update
11	Crops and Weather
12	U.S. Crop Prospects
13	Cattle on Feed
14,15,16	World Crop Prospects
17	Livestock Situation
18	Feed Situation
19	Export Outlook
20	Red Meat Situation
21,22,23	Eggs and Chickens
24	Farm News Special
25	Poultry Situation
26	Cotton Situation
27	Crops and Weather
28,29,30	Wool Situation
31	Farmers' Prices

September

1	Crops and Weather
2	Agricultural Outlook
3	Sugar Situation
4,5,6,7	Fruit Situation
8	Retail Food Prices
9	Crops and Weather
10	Farm Trade Prospects
11,12,13	U.S. Crop Prospects
14	World Crop Prospects
15	Cattle on Feed
16	Tobacco Situation
17	Dairy Situation
18,19,20	Cattle Update
2′	Hogs and Pigs
2	Soybean Stocks
23	Rice Situation
24	Red Meat Situation
25,26,27	Aquaculture Situation
28	Potatoes
29	Crops and Weather
30	Farmers' Prices

Features are subject to change.

REPORTS IN THE NEWS

To order reports: Unless another address is listed, write to FARMLINE Reports, Room 505-GHI Bldg., USDA, Washington, D.C. 20250. Please ask for publications by title and report number (in parentheses). Single copies are free, but supplies are limited.

Grain Dust for Fuel and Feed

Grain dust—difficult, dangerous and expensive to handle—may be put to use in the future.

Small grain particles wear off of corn, wheat, sorghum, soybeans, and other grains as they move through facilities and equipment from farms to final destinations.

Researchers see it as a possible source of fuel, feed, or fertilizer, with its use as a feed ingredient apparently having the most potential in terms of cost and nutrition.

Although little information is available, some feeders are already feeding their cattle, swine, and poultry rations that contain grain dust.

Some sources contend grain dust has 80 percent of the nutritional value of its original source. Estimates show the dust to have a value of $72 per ton when corn is $2.52 a bushel. Although a cost analysis was not made for handling, grain dust likely has more value as a feed than as a fertilizer or fuel in most situations.

Grain dust has been compared to gunpowder because of its explosive characteristics when combined with oxygen. It can be burned under controlled conditions though for heat. A public utility is exploring this possibility. A drawback is the possibility of silica, particularly in soybean dust. Glass created when silica is incinerated causes problems in incineration equipment.

Grain dust as a fuel could be combined with or substituted for coal, but coal, with over 1.7 times the energy per pound as corn dust, is superior as an energy source. Coal is also superior on a cost basis. So, with processing and transportation costs considered, a subsidy of $13.71 per ton would be needed to make grain dust competitive with coal at $38.92 per ton.

Grain dust could also be used to produce fuel alcohol because of its starch content, but again the cost comparison with other feedstocks would be the determining factor.

Spreading dust on cropland poses weed and insect problems, but because of its high organic content it is ideal as a compost for greenhouses and gardens. Costs would have a negative effect here also. Composted products which sold at $4 per hundredweight in the Midwest last year suggest that processed grain dust retail prices would have been $80 a ton.

Most of the retail value is accounted for by wholesaler and retailer margins, transportation, and processing, leaving a small proportion, if any, of the value allocated to the raw product.

Grain Dust, Problems and Utilization *(ESS-6), by L. D. Schnake.*

Inflation: Causes, Cures and Consequences

Inflation, defined as a rise in the general price level, accelerated in the U.S. from an average of slightly less than 2 percent during 1950-64, to over 11 percent in 1979, and 13 percent in 1980.

In the agricultural sector, inflation leads to higher prices of farm products and inputs. It also encourages farmers to purchase additional capital inputs, increases the wealth of those who own the land, and strengthens the relative economic position of high income people—farm and nonfarm—in buying land.

A variety of causes are responsible for inflation. Government spending has been said to contribute heavily to inflation. However, total federal, state and local expenditures as a percentage of Gross National Product have generally risen during recessions and fallen during recoveries, thus raising questions about government's role in inflation. Government spending doesn't automatically translate into a rise in the general price level unless accompanied by money supply increases that exceed any increase in the supply of goods and services.

Similarly, if the money supply were not increased, rises in some prices would eventually result in declines in other prices and the general price level would remain unchanged. Thus, rising oil prices aren't in themselves a major cause of inflation.

Policymakers must try to enable the public to cope with inflation and at the same time try to combat inflation with new legislation.

The possible solutions often lead to conflicts for legislators in trying to assist clientele groups. These efforts may lead to higher commodity price supports, larger food stamp benefits, and easier credit availability. On the other hand, stopping inflation would require freezing, decreasing, or even eliminating commodity price supports, food stamp benefits, and special credit programs.

The truths and myths of inflation in agriculture, and the impact of programs designed to aid farmers and consumers, are examined in this report to assist lawmakers with 1981 legislation. The report also provided the basis for the FARMLINE series on inflation.

Inflation: A Food and Agricultural Perspective *(AER-463), by Paul T. Prentice and Lyle P. Schertz.*

Cheese Prices Affect All Dairy

Cheese prices reflect expanding production and consumption in the industry, increasing domination by fewer firms, and substantial governmental regulation.

The demand for cheese and resulting prices affect milk supplies and, in turn, the supplies and prices of all dairy products. Cheese prices doubled in the seventies. Increased prices for all dairy products were partly a result of the rising demand for cheese.

U.S. cheese production more than tripled to 3.7 billion pounds between 1950 and 1979, resulting in cheese utilizing 25 percent of all milk production by 1979—up from 10 percent 30 years ago. Per capita consumption more than doubled.

The nationwide price of domestic and imported cheese is based on prices established at the National Cheese Exchange in Green Bay, Wisconsin, although it handles only about 1 percent of cheese production. Prices set at the exchange are closely followed by other major markets. Cheese prices strongly influence farm level manufacturing and fluid grade milk prices.

Dairy farmers receive about 48 cents of each retail dollar spent on cheese. Processing, packaging, and transportation account for the remaining 52 cents. Retailers receive a higher profit from cheese than from other dairy products.

Cheese Pricing *(AER-462), by Harold W. Lough.*

New FCIC Insurance Covers More Crops

Faced with an ever-rising ante for production costs, farmers now stand to lose more than ever if natural disaster strikes their crops.

With last summer's severe drought well in mind, many farmers may look into new insurance options provided for virtually all crops this year by the Federal Crop Insurance Act of 1980.

Federal crop insurance has been around about four decades. But until now, it wasn't available in many parts of the country, and often farmers had to rely on an array of disaster relief and loan programs when drought, hail, pests, disease, and other calamities struck.

The new program will protect crops when ASCS disaster payments are phased out after the 1981 harvest. Subsidized crop insurance will then replace the complex system of disaster payments and emergency loans that has built up over the years, explains USDA economist Clayton Ogg.

Program changes will provide more protection through higher yield and dollar guarantees. They also provide much greater flexibility: Farmers can tailor coverage to individual financial situations, change policies from year to year as risk management needs change, and receive insurance guarantees based on individual yield history.

A major attraction of federal crop insurance is that the Government pays 30 percent of the premium price with the subsidy covering up to 65 percent of established yields.

Who's Eligible

When the 1980 Act was written, only 1,626 of the nation's roughly 3,000 counties had crop insurance, Ogg notes. Half of them had insurance for wheat, and many insured corn, soybeans, cotton, tobacco, and various other crops.

Originally, 250 counties were to be added annually until all counties were covered. However, this spring the Secretary of Agriculture announced that by 1982 insurance will be available in all counties where the six crops currently eligible for disaster payments are grown: wheat, cotton, grain sorghum, rice, corn, and barley.

The insurance can be purchased from private insurance agents, banks, production credit associations, and county ASCS offices, as well as from local offices of the Federal Crop Insurance Corporation (FCIC).

Although deadlines for obtaining coverage for spring crops are past—deadlines vary with crops, regions, and seasons—there's still time to buy protection for many fall crops in most areas. Producers can find out deadlines from local sources of the new insurance.

Farmers can choose to cover 50, 65, or 75 percent of their normal yield, Ogg says. They can then select from a range of three guaranteed prices, with the highest insured price set within 90 percent of the projected market price.

Although the 75-percent coverage of the full projected price is available, the 30-percent discount off the premium price covers only the first 65 percent of the guaranteed yield. Producers less in need of protection can select smaller amounts of coverage that cost only a fraction of the higher options.

This year, eligible producers can still receive ASCS disaster payments along with crop insurance—without the 30 percent discount off the premium—if they participate in farm programs for wheat, cotton, grain sorghum, corn, rice, or barley.

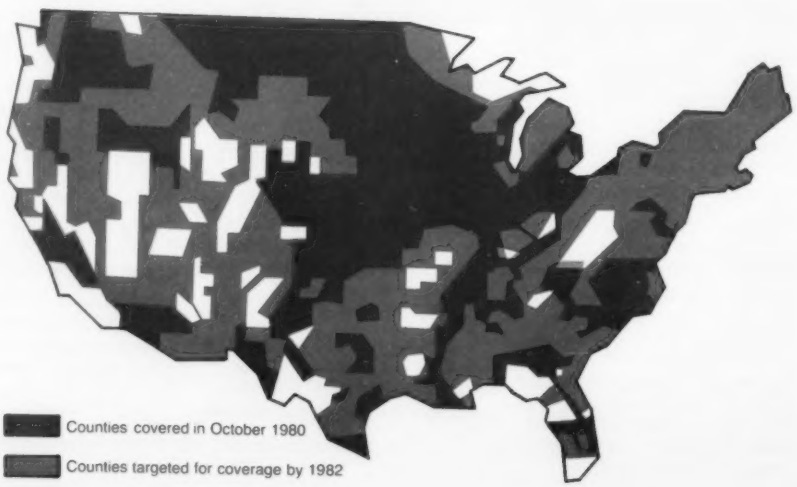
Figuring The Payment

Premium payments and program features vary among counties and crops. As an example, let's look at the protection a farm in an Iowa county can get on its corn and soybean crops this year.

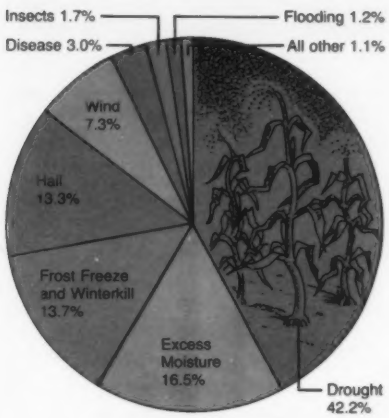
Let's say the fictitious farmer chooses 75-percent coverage for 200 acres of corn and 100 acres of soybeans. Let's assume also that:

- The average corn yield is 110 bushels, according to FCIC records.
- The 75-percent yield guarantee at $2.70 a bushel means a subsidized premium of $9.90 an acre for corn.

New Crop Insurance Extends Coverage Area



Drought Takes Biggest Share of Crop Insurance Benefits



Average share, 1948-70

• The average soybean yield is 30 bushels per acre.

• The soybean price guarantee chosen is $7 a bushel, which costs $8.50 an acre for the premium.

Now let's assume that severe drought reduces the 1981 corn yield to 20 bushels per acre and soybean yield to 10 bushels. Payment for the damaged corn crop under the subsidized Federal Crop Insurance Program is calculated as follows:

1) 75 percent of the 110 bushel average yield = 82.5 bushels
2) 82.5 bushels (guarantee) - 20 bushels (production) = 62.5 bushel loss
3) 62.5 bushels x $2.70 = $168.75 per acre
4) $168.75 x 200 acres = **$33,750 payment**

Payment for the soybean damage is determined this way:

1) 75 percent of the 30 bushel yield = 22.5 bushels
2) 22.5 bushels (guarantee) - 10 bushels (production) = 12.5 bushel loss
3) 12.5 bushels x $7 = $87.50 per acre
4) $87.50 x 100 acres = **$8,750 payment**

The subsidized insurance program would pay $42,500 for the two damaged crops. At premiums of $9.90 an acre for corn and $8.50 an acre for soybeans, premium costs were $2,830, leaving a net benefit of $39,670.

The tradeoffs between insurance benefits and premium costs depend, of course, on extent of losses and the level of protection chosen. Insured farmers who suffer no losses must still pay the premium.

However, the premium payments are a tax-deductible business expense, thus lowering the cost of insurance protection.

Alternative Coverages

If, in the example above, the farmer had decided against insurance, but had participated in the 1981 feed grain program, disaster payments would have covered the corn crop. But soybeans aren't a target price crop, so they aren't eligible for disaster payments.

Let's see how the farmer would fare under the low yield disaster program, without insurance. Assuming a target price of $2.40 a bushel and the same yield reduction as above, payments would be calculated as follows:

1) 60 percent of the 110 bushel average = 66 bushels (only production below 60 percent of normal yield is eligible)
2) One-half the target price = $1.20 per bushel (the payment rate equals one-half the target price)
3) 66 bushels (eligible) - 20 bushels (production) = 46 bushel loss
4) 46 bushels x $1.20 = $55.20 per acre
5) $55.20 x 200 acres = **$11,040 payment**

Farmers who want to minimize risk can choose to pay the higher, nonsubsidized crop insurance premium and receive the combined protection in 1981.

Assuming the same corn and soybean acreage and coverage as above, premium charges would be $3,370, up $540 from the subsidized premium costs. But the combined potential returns from insurance and disaster payments—assuming the same damage—would rise substantially: $42,500 + $11,040 = $53,540.

In this example, participating in the feed grain program and paying the additional corn premiums increased total payments by $11,000. The actual result would depend on the level of coverage and the extent of any loss from drought, wind, hail, disease, or other natural disaster.

One Straightforward System

Under the new program, there will be one straightforward system for everyone. Previously, a vast array of programs sprung up wherever farmers suffered losses.

Premium rates are set by the FCIC, based on the potential risk of crop loss in each area. This should encourage farmers to plant crops that are better suited to their particular area.

The expanded protection will serve farmers' financial needs by helping ensure cash flow stability.

This will make it easier to obtain and pay loans, especially for those producers who don't have a big capital reserve.

Forward contracts will also be more secure with insurance to guarantee funds for meeting the contract.

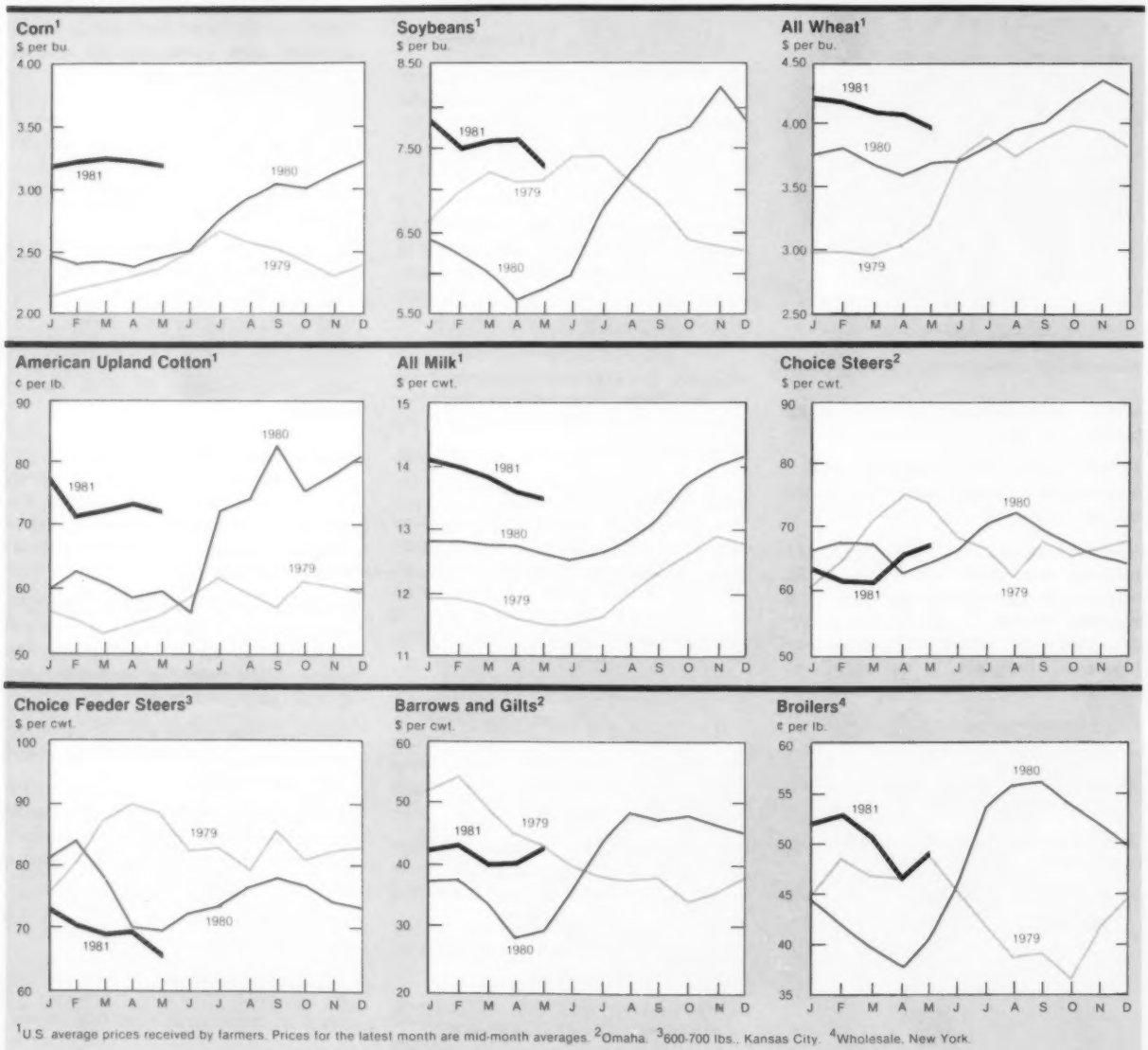
The amount of insurance that's right for an individual farmer will probably depend on these same cash flow needs.

FARMLINE TRENDS

Monthly Price Monitor

Farm prices fell for the fifth month in a row in May, although they averaged 14% above May 1980 prices. Corn prices were up a penny from January but lost 4 cents from April. Prices of soybeans, wheat, cotton, milk, and feeder steers were down from both January and April. By May, Kansas City feeder steers had dropped $6.73 per cwt. since January, remaining below year-earlier levels.

Broiler prices rose in May but were down from January. Omaha Choice steers rose nearly $2 in May and were almost $4 per cwt. above their January level.

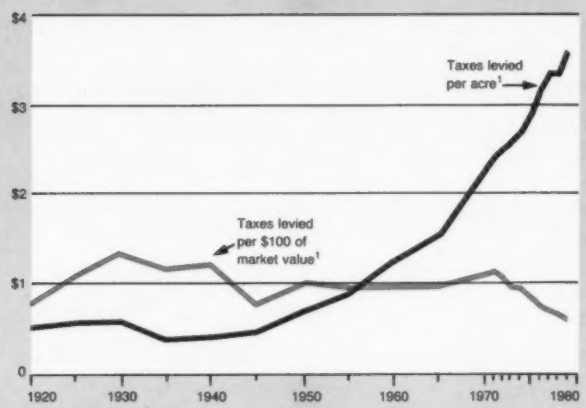


[1]U.S. average prices received by farmers. Prices for the latest month are mid-month averages. [2]Omaha. [3]600-700 lbs., Kansas City. [4]Wholesale, New York.

Paying the Farm Real Estate Tax Bill

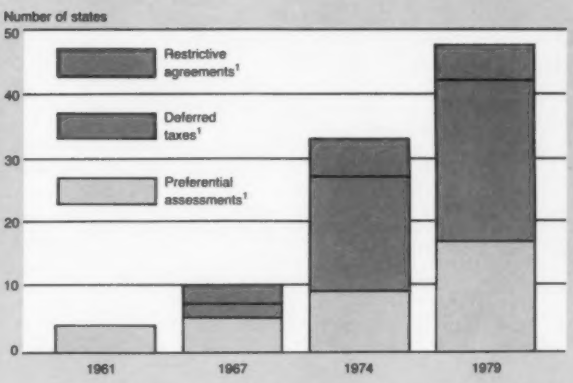
Farm real estate taxes per acre have climbed steadily since 1940. However, since 1970, farmland prices have risen at an even faster rate, so taxes per $100 of property value have been dropping. State and local real estate taxes levied on farmland averaged about 60 cents per $100 of market value in 1979, the lowest rate in 60 years. Tax increases haven't kept up with farmland values because of the special property tax treatment now offered to farmland in all states except Georgia and Mississippi. State laws vary, but they typically permit farmland to be assessed at its agricultural use value rather than market value. Property tax relief measures, such as California's Proposition 13, have also helped.

Farm Real Estate Taxes per Acre Continue to Rise, But Taxes Are Declining Relative to Farm Market Values



[1]U.S. Average.

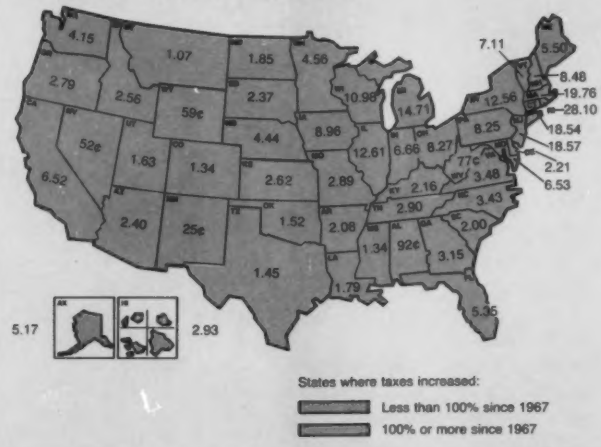
Most States Now Have Special Farmland Assessment Laws



[1]All of these permit farmland to be assessed at its agricultural value, but deferred taxes impose penalties for later conversion while restrictive agreements require that the land remain in agricultural use for a certain number of years.

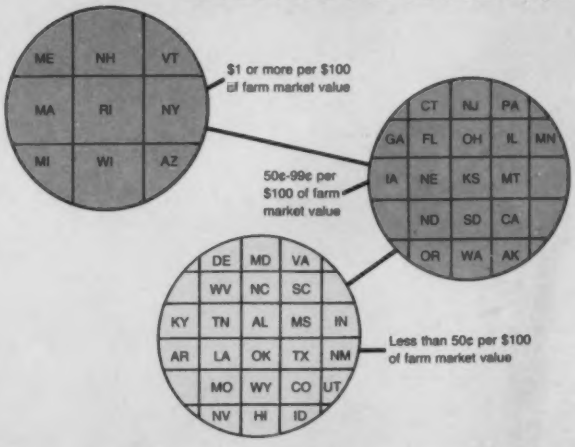
Taxes per Acre Vary Widely from State to State

Taxes levied on farm real estate, dollars per acre, 1979:



. . . Taxes Also Vary on a Market Value Basis

States where 1979 taxes levied on farm real estate averaged:



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